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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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MARSH, FISCHMANN & BREYFOGLE LLP
3151 SOUTH VAUGHN WAY
SUITE 411
AURORA, CO 80014

EXAMINER

LUGO, CARLOS

ART UNIT PAPER NUMBER

3677

DATE MAILED: 05/23/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/883,131

Applicant(s)

WATTS, JOHN RUSSELL

Examiner

Carlos Lugo

Art Unit

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- The MAILING DATE of this communication appears on the cover sheet with the correspondence address -

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 and 37-41 is/are pending in the application.
- 4a) Of the above claim(s) 30-36 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 and 37-41 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) Paper No(s). _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449) Paper No(s) <u>4</u> | 6) <input type="checkbox"/> Other: |

DETAILED ACTION

1. This Office Action is in response to Applicant's election on March 12, 2002, wherein claims 1-29 and 37-41 were elected without traverse and claims 29-36 were non elected.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference sign(s) not mentioned in the description:
 - Element 5 is not described in the specification.
3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:
 - Elements 11A, 12A, 13, 14A (Page 11 Lines 7,8 and 10), 29, 31, 32 (Page 12 Lines 18 and 19) and 62 (Page 15 Line 7) are not illustrated in the drawings.
4. The drawings are objected to because:
 - In figure 5 it should be --66A-- instead of "66" because element 66 is used to illustrates a wedge and 66A is used to illustrates a stop.
5. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following features must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.
 - The interchangeable core and the control key, as claimed in claim 16.
 - The surfaces of revolutions and the axis of revolution, as claimed in claims 19-22.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

6. Applicant is reminded of the proper language and format for an abstract of the disclosure.

The abstract should be in narrative form and generally limited to a single paragraph on a separate sheet within the range of 50 to 150 words. It is important that the abstract not exceed 150 words in length since the space provided for the abstract on the computer tape used by the printer is limited. The form and legal phraseology often used in patent claims, such as "means" and "said," should be avoided. The abstract should describe the disclosure sufficiently to assist readers in deciding whether there is a need for consulting the full patent text for details.

The language should be clear and concise and should not repeat information given in the title. It should avoid using phrases which can be implied, such as, "The disclosure concerns," "The disclosure defined by this invention," "The disclosure describes," etc.

The abstract provided by the applicant is too long.

7. The specification is objected to because of the following informalities:

- Page 11 Line 20, change the word "cross" as --transverse--.
- Page 11 Line 29, delete "14" after "deepest point".
- Page 14 Line 34, change "drive portion 47" as --drive portion 42--.

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- Page 15 Line 22, change "disc like" as --annular--.
- Page 15 Line 37, add --65 and 66-- after "wedges".
- Page 16 Line 5, change "66" as --66A--.
- Page 16 Line 25, change "55" as --59--.
- Page 17 Line 12, delete "When the" after "padlock".
- Claim 25 Line 2, delete the word "and".

Appropriate correction is required.

Claim Objections

8. **Claims 37 and 38 are objected** to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claims 23-28. See MPEP § 608.01(n). Accordingly, the claim has not been further treated on the merits.

Claim Rejections - 35 USC § 112

9. The following is a quotation of the second paragraph of 35 U.S.C. 112:

- The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

10. **Claims 1-17,19-27,37 and 38 are rejected** under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "within the body" in lines 20 and 23. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitations "the angular disposition of the cam" and "the locking and unlocking configurations" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "within the body" in lines 20 and 23. There is insufficient antecedent basis for this limitation in the claim.

Claim 4 recites the limitations "the angular disposition of the cam" and "the locking and unlocking configurations" in line 19. There is insufficient antecedent basis for this limitation in the claim.

Claim 6 recites the limitations "the at least one finger" and "second drive shoulder" in line 3. Also, recites the limitations "the first drive shoulder" and "the interposed finger" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitations "the at least one finger" and "second drive shoulder" in line 3. Also, recites the limitations "the first drive shoulder" and "the interposed finger" in lines 5 and 6. There is insufficient antecedent basis for this limitation in the claim.

Claim 14 recites the limitations "the removal configuration" and "the second operative position" in lines 2 and 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 19 recites the limitation "the body of the leg" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 20 recites the limitation "the body of the leg" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 21 recites the limitations "the body of the leg" and "the shackle body" in lines 3 and 11. There is insufficient antecedent basis for this limitation in the claim.

Claim 22 recites the limitations "the body of the leg" and "the shackle body" in lines 3 and 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 25 recites the limitation "the balls" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Claim 26 recites the limitation "the balls" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 27 recites the limitation "the balls" in line 2. There is insufficient antecedent basis for this limitation in the claim.

11. **Claims 18 and 28 are rejected** under 35 U.S.C. 112, second paragraph, as being indefinite in that it fails to point out what is included or excluded by the claim language. This claim is an omnibus type claim.

Claim Rejections - 35 USC § 102

12. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

13. **Claims 1,3,13/1,13/3,14/1,14/3,15/1,15/3,19-27,29 and 37-41 are rejected** under 35 U.S.C. 102(b) as being anticipated by US Pat No 5,174,136 to Thwing.

Regarding claims 1,3,23 and 24, Thwing ('136) discloses a padlock that includes a shackle (element 20) having a short leg (element 21) with a first locking recess (element 22) and a longer leg (element 23) having an opposed second locking recess (element 24). The longer leg is connected by a longitudinally elongated

recess or flat to a peripheral recess (element 25) disposed towards the end of the longer leg.

A casing (element 15) having a short and longer recess (elements 28 and 30 respectively) extending into the casing from a first end surface to accept the short and longer legs respectively. A central recess (element 34) extending from an opposed second end surface, an offset recess (element 60) extending into the casing from the opposed second end surface and intersecting the central recess. The intersection defines a first and second longitudinally elongated cusp portions. A transverse recess (element 32) extends into the casing from a first side of the casing.

Also, the padlock comprises a cylinder (element 35) having a key operable barrel (element 36). Two opposed balls (element 46), a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the long recess and second locking recess. The transverse recess supports the balls. A cam (element 50) to control the balls and a coupler (element 80) to facilitate operable coupling between the cam and the cylinder.

The coupler is being mountable within the casing to provide a Type 1 padlock, characterized by an unlocked, open configuration where the short leg is free of the casing, the casing supports the longer leg and the key is removable.

The coupler also is being mountable within the casing to provide a Type 2 padlock, characterized by an unlocked, open configuration where the short leg is

free of the casing, the casing supports the longer leg and the key and barrel cannot be rotated to the undisplaced position to enable key removal.

The cam includes a first cam portion comprising a substantially cylindrical portion defining a curved surface (element 53) and having a longitudinal axis coaxial with the cam axis of rotation and which is parallel with and between the longitudinal axis of the short and longer recess in the casing.

In a locking configuration, the cam presents the curved surface to each ball to retain the balls in the locking recesses.

In a locking configuration, the cam presents a longitudinally elongated, side, first unlocking recess (element 52) to the first ball and a longitudinally elongated, side, second unlocking recess (element 52) to the second ball.

As to claims 13/1 and 13/3, Thwing ('136) discloses the use of a compression spring (element 78) within the longer recess to bias the shackle from the casing.

As to claims 14/1 and 14/3, Thwing ('136) discloses that the cylinder is removable to provide accessibility to the cam to enable it to be rotated to the removal configuration while the stop remains undisplaced in the second operative position.

As to claims 15/1 and 15/3, Thwing ('136) discloses that the cylinder is retained in the casing by a threaded fastener (element 76) having a head accessible through the short recess. The cylinder barrel is free to rotate without limitation when the cylinder is removed from the casing.

As to claims 19-22 and 25-27,29 and 37-41, Thwing discloses that the shackle locking recesses (elements 22 and 24) have a surface comprising surfaces of revolution defining an axis of revolution that intersects the body of the leg. The surface of the recess extends in all directions from the axis.

The locking recess comprises two portions located adjacently at a small distance from each other and being joined by a channel portion, as illustrated in Figure 3.

The portion of surfaces of revolutions comprises spherical portions defining by a radius substantially the same as the radii of the balls.

14. Claims 1-4,13 and 14 are rejected under 35 U.S.C. 102(b) as being anticipated by US Pat No 4,998,422 to Borgmann et al (Borgmann).

Regarding claims 1-4, Borgmann discloses a padlock that includes a shackle (element 14) having a short leg (element 26) with a first locking recess (element 32) and a longer leg (element 30) having an opposed second locking recess (element 32). The longer leg is connected by a longitudinally elongated recess or flat to a peripheral recess (element 34) disposed towards the end of the longer leg.

A casing (element 12) having a short and longer recess (elements 36 and 38 respectively) extending into the casing from a first end surface to accept the short and longer legs respectively. A central recess (element 142) extending from an opposed second end surface, an offset recess (element 141) extending into the casing from the opposed second end surface and intersecting the central recess. The intersection defines a first and second longitudinally elongated cusp portions. A

transverse recess (element 42) extends into the casing from a first side of the casing.

Also, the padlock comprises a cylinder (element 16) having a key operable barrel. Two opposed balls (element 20), a first ball able to protrude into the short recess and first locking recess and a second ball able to protrude into the long recess and second locking recess. The transverse recess supports the balls. A cam (element 64) to control the balls and a coupler (element 24) to facilitate operable coupling between the cam and the cylinder.

The coupler is being mountable within the casing to provide a Type 1 padlock, characterized by an unlocked, open configuration where the short leg is free of the casing, the casing supports the longer leg and the key is removable.

The coupler also is being mountable within the casing to provide a Type 2 padlock, characterized by an unlocked, open configuration where the short leg is free of the casing, the casing supports the longer leg and the key and barrel cannot be rotated to the undisplaced position to enable key removal.

The angular disposition of the cam in a locking and unlocking configuration is determined by a stop (element 66) comprising a disk-like member (element 136) supported coaxially with and relative to the cam and being angularly displaceable relative to the cam, and having a stop shoulder (element 88), which protrudes into the offset recess.

The cam includes a first cam portion (element 72) comprising a substantially cylindrical portion defining a curved surface and having a longitudinal axis coaxial

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with the cam axis of rotation and which is parallel with and between the longitudinal axis of the short and longer recess in the casing.

In a locking configuration, the cam presents the curved surface to each ball to retain the balls in the locking recesses.

In a locking configuration, the cam presents a longitudinally elongated, side, first unlocking recess (element 70) to the first ball and a longitudinally elongated, side, second unlocking recess (element 70) to the second ball.

As to claim 13, Borgmann discloses the use of a compression spring within the longer recess to bias the shackle from the casing.

As to claim 14, Borgmann discloses that the cylinder is removable to provide accessibility to the cam to enable it to be rotated to the removal configuration while the stop remains undisplaced in the second operative position.

Claim Rejections - 35 USC § 103

15. The following is a quotation of 35 U.S.C. 103(a), which forms the basis for all obviousness rejections, set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

16. **Claims 2,4,5-7,10,11,12,13/2,13/4,14/2,14/4,15/2,15/4 and 16 are rejected** under 35 U.S.C. 103(a) as being unpatentable over US Pat No 5,174,136 to Thwing in view of US Pat No 4,998,422 to Borgmann et al (Borgmann) and US Pat No 6,145,356 to Thwing.

Regarding claims 2 and 4, Thwing ('136) discloses the invention substantially as claimed. However, Thwing fails to disclose that the disk-like member has a stop shoulder, which protrudes into the offset recess. Thwing discloses a disk-like member (element 80) having a hook shaped end (elements 88 and 89) that works as a stop, which protrudes into the offset recess.

Borgmann teaches a disk-like member (element 136) having a stop shoulder (element 88), which protrudes into the offset recess.

Applicant is reminded that a change in the shape of a prior art device is a design consideration within the skill of the art. In re Dailey, 357 F.2d 669, 149 USPQ 47 (CCPA 1966).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a stop shoulder, as taught by Borgmann, into a disk-like member, as described by Thwing ('136), in order to limit the movement of the cam.

As to claims 5-7,10 and 11, Thwing ('136) fails to disclose that the first cam portion is integrally connected to a cam drive portion comprising two opposed drive recesses being defined by an axial bridge that have cylindrical portions to support the disk-like member with at least one protruding finger.

Thwing ('356) teaches a cam comprising a first cam portion is integrally connected to a cam drive portion comprising two opposed drive recesses (elements 36a and 36c) being defined by an axial bridge (element 15c') that have cylindrical portions to support the disk-like member (element 18) with at least one protruding finger.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a similar cam drive portion, as taught by Thwing ('356), into a padlock device, as described by Thwing ('136), in order to have a better rotation of the cam member for the Type 1 and Type 2 padlocks.

As to claim 12, Thwing discloses that the padlock further includes a torsion spring (element 66).

As to claims 13/2 and 13/4, Thwing ('136) discloses the use of a compression spring (element 78) within the longer recess to bias the shackle from the casing.

As to claims 14/2 and 14/4, Thwing ('136) discloses that the cylinder is removable to provide accessibility to the cam to enable it to be rotated to the removal configuration while the stop remains undisplaced in the second operative position.

As to claims 15/2 and 15/4, Thwing ('136) discloses that the cylinder is retained in the casing by a threaded fastener (element 76) having a head accessible through the short recess. The cylinder barrel is free to rotate without limitation when the cylinder is removed from the casing.

As to claim 16, Thwing ('136) fails to disclose that the cylinder comprises an interchangeable core retained in the casing by a sideways protruding shoulder that is displaceable to withdraw into the core by the application of a control key.

Thwing ('356) teaches that the use of an interchangeable core is known in the art (Col. 10 Lines 53-59).

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It would have been obvious to one having ordinary skill in the art at the time the invention was made to use a an interchangeable core, as taught by Thwing ('356), into the device disclosed by Thwing ('136), in order to remove the cylinder.

17. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over US Pat No 4,998,422 to Borgmann et al (Borgmann) in view of US Pat No 2,460,615 to Andrew.

Borgmann disclose that the cylinder (element 16) comprises pin chambers to receive the pin members (element 150). However, Borgmann fails to disclose that the cylinder has a channel to accommodate a resilient strip.

Andrew teaches that a cylinder (element 42) having a channel (element 53) to accommodate a resilient strip (element 54) is known in the art.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a channel disposed on the cylinder, as taught by Andrew, into the device described by Borgmann, in order to place a strip to retain the cylinder in the casing.

Allowable Subject Matter

18. Claims 8 and 9 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.


Conclusion

19. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The patents cited further show the state of the art with respect to padlocks.

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20. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Carlos Lugo. The examiner phone number is (703)-305-9747. The fax number for correspondence before a final action is (703)-872-9326 and the fax number for correspondence after final action is (703)-872-9327. The email direction of the examiner is carlos.lugo@uspto.gov. The examiner can normally be reached on Monday to Friday from 9:30am to 6:30pm (EST). If the examiner is not available, please leave a message, including the application number and the examiner will answer the message as soon as possible.

May 14, 2002


J. J. SWANN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600